National Institute of Environmental Health Sciences

Analyses of the effects of global change on human health and welfare and human systems (SAP 4.6)

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Abstract:

Climate change, interacting with changes in land use and demographics, will affect important human dimensions in the United States, especially those related to human health, settlements and welfare. The challenges presented by population growth, an aging population, migration patterns, and urban and coastal development will be affected by changes in temperature, precipitation, and extreme climate-related events. In the future, with continued global warming, heat waves and heavy downpours are very likely to further increase in frequency and intensity. Cold days and cold nights are very likely to become much less frequent over North America. Substantial areas of North America are likely to have more frequent droughts of greater severity. Hurricane wind speeds, rainfall intensity, and storm surge levels are likely to increase. Other changes include measurable sea-level rise and increases in the occurrence of coastal and riverine flooding. The United States is certainly capable of adapting to the collective impacts of climate change. However, there will still be certain individuals and locations where the adaptive capacity is less and these individuals and their communities will be disproportionally impacted by climate change. This report – the Synthesis and Assessment Product 4.6 (SAP 4.6) – focuses on impacts of global climate change, especially impacts on three broad dimensions of the human condition: human health, human settlements, and human welfare. The SAP 4.6 has been prepared by a team of experts from academia, government, and the private sector in response to the mandate of the U.S. Climate Change Science Program's Strategic Plan (2003). The assessment examines potential impacts of climate change on human society, opportunities for adaptation, and associated recommendations for addressing data gaps and near- and long-term research goals.

Source: http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=197244#Download

Resource Description

Early Warning System: ☑

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

☑

Exposure : ☑

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Extreme Weather Event, Food/Water Quality, Food/Water Quality, Food/Water Security, Glacier/Snow Melt, Human Conflict/Displacement, Precipitation, Sea Level Rise, Temperature

Air Pollution: Interaction with Temperature, Ozone

Extreme Weather Event: Drought, Flooding, Hurricanes/Cyclones, Landslides, Wildfires

Food/Water Quality: Pathogen, Pathogen, Pathogen, Other Water Quality Issue

Water Quality (other): Saltwater intrusion

Temperature: Extreme Cold, Extreme Heat, Fluctuations

Geographic Feature: ☑

resource focuses on specific type of geography

Desert, Freshwater, Ocean/Coastal, Urban, Other Geographical Feature

Other Geographical Feature : Riverbasins

Geographic Location: ☑

resource focuses on specific location

United States

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Infectious Disease, Injury, Mental Health/Stress, Morbidity/Mortality, Respiratory Effect, Other Health Impact

Infectious Disease: Foodborne/Waterborne Disease, Zoonotic Disease

Foodborne/Waterborne Disease: General Foodborne/Waterborne Disease, Giardiasis, Salmonellosis

Zoonotic Disease: Hantavirus Pulmonary Syndrome

Respiratory Effect: Asthma, Chronic Obstructive Pulmonary Disease

Other Health Impact: Well-being; Heat stress/stroke

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Children, Elderly, Low Socioeconomic Status

Other Vulnerable Population: Immunocompromised; Disabled; Uninsured

Resource Type: ☒

format or standard characteristic of resource

Review

Timescale: ☒

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☒

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content